L16-92 65 ICs (P)

Honeywell

HONEYWELL INFORMATION SYSTEMS INC.

TITLE: ENGINEERING PRODUCT SPECIFICATION
Series 6000 MOS Memory Modular
Power System

No. 43A177735

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REVISION RECORD

REVISION LETTER	DATE	PAGES AFFECTED	APPROVALS	AUTHORITY
A	Prototype Released JUL 28 1971			
B	Rev. AUG 25 1971	Rev.Sh.1,7,8,10, 11,12 & 13	Aug. 20, 1971	CO HXN-00-00208

PRELIMINARY
FOR
LIMITED FABRICATION
ONLY
21-July-71
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APPROVAL

HONEYWELL PROPRIETARY

CE 301 (10-70)

Each regulator output shall be monitored and visual indication of regulator operation shall be provided. Either confidence or lack of confidence indication shall be provided.

3.2.7 Power Turn On and Failure

In the event of a-c power turn on, power failure, or MOS Memory turn off the supplies shall conform to the following:

Turn On

T_1 = Power Turn On

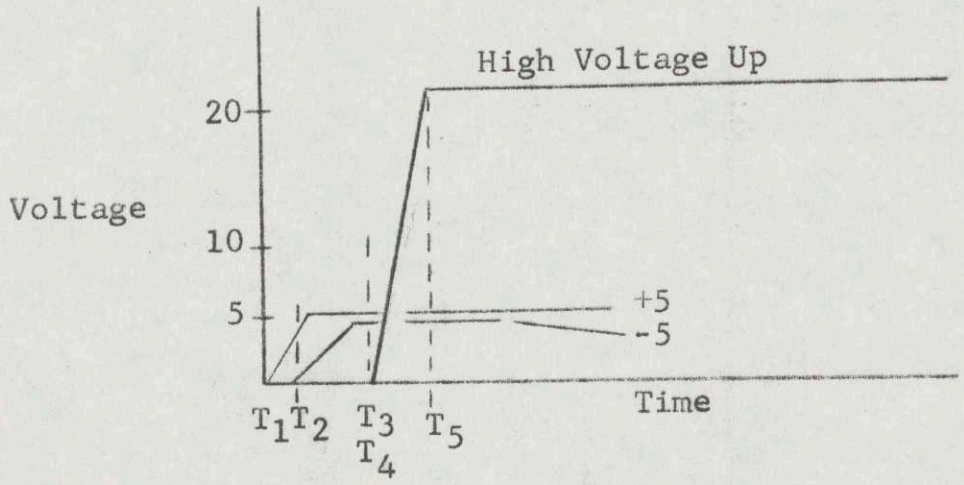
T_2 = +5 Volts Confident

T_3 = -5 Volts Confident (Level 1 Confidence)

T_4 = High Voltage Enable

T_5 = High Voltage Confident (Level 2 Confidence)

B



Turn Off

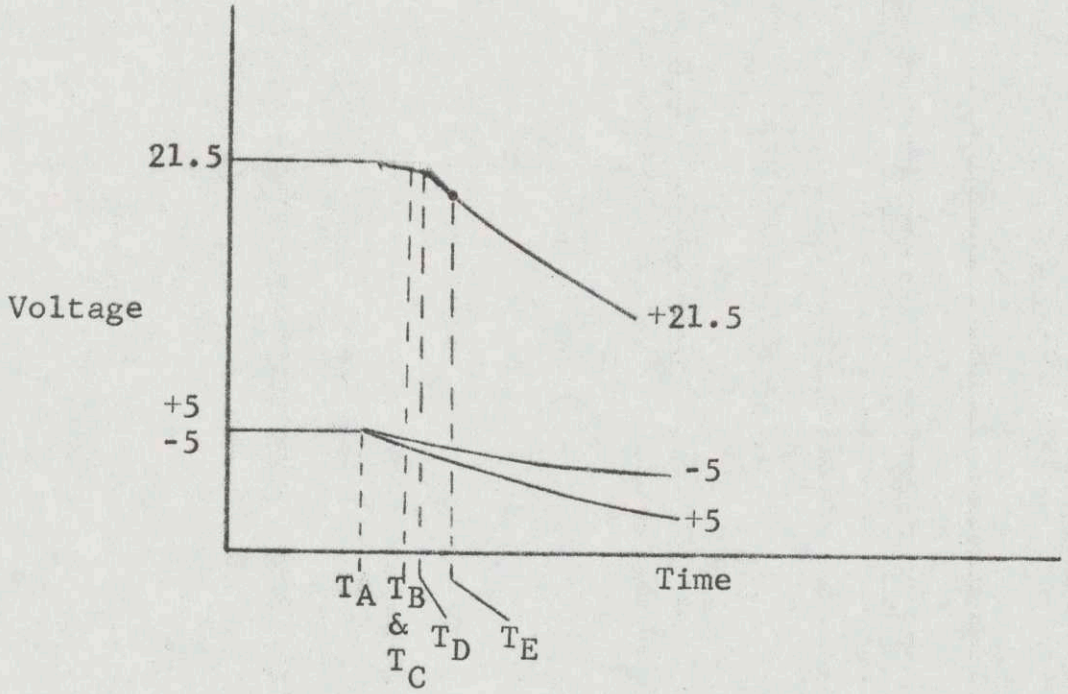
T_A = Power Turn Off or Power Failure

T_B = Loss of Level 1 Confidence

T_C = Loss of High Voltage Enable

T_D = High Voltage Crowbar Start

T_E = Loss of Level 2 Confidence



Loss of Level 1 Confidence shall take place because the +5 volts regulator has reached its undervoltage point (-10 percent), or because of any Level 1 regulator fault condition.

Loss of Level 2 Confidence shall take place because the high voltage regulator has reached its undervoltage point (-10 percent), or because of any regulator fault condition.

3.5 REMOTE VOLTAGE MARGINS

The memory power supply system will have remote control of the voltage margin switching functions as follows:

3.5.1 Voltage Margin Function

Bit 1	Bit 2	Voltage State
0	0	Normal
0	1	+5 Percent
1	0	-5 Percent
1	1	Illegal

Logic "0" is approximately zero volts.

Logic "1" is approximately +5 volts.

3.5.2 Voltages to be Margin Switched (2 Lines per Voltage)

Margin Data Bit	Function	Bit
54	+21.5 volt word	1
55	+21.5 volt word	2
56	-5 volt bit	1
57	-5 volt bit	2
64	+5 volt	1
65	+5 volt	2

[B]

3.6 OTHER CONTROL CIRCUITS

3.6.1 Metering

There shall be an ammeter and a voltmeter provided for monitoring of current and voltage for each of the following supply outputs:

Low Voltage	High Voltage
+5 volt	21.5 volt
-5 volt	

Each independent output shall be monitored.

An OFF position on the monitoring circuits is optional. The meters shall be +5 percent accuracy or better and located at the power supplies. A minimum of 1 ammeter and 1 voltmeter shall be provided.

4. REGULATED POWER OUTPUT REQUIREMENTS

4.1 OUTPUT VOLTAGES AND LOADS

4.1.1 Regulator Requirements

	+5V	-5V	+21.5V
Output Voltage Normal	+5V	-5V	+21.5V
Output Current Design Minimum	40A	20A	20A
Adjustment Range (Minimum)	±5%	±5%	±5%
Margin Percent of Set Value	±5%	±5%	±5%
D-C Load Regulation to 100 Percent Load	±1%	±1%	±1%
Total Tolerance 1000 hours, Load Regulation, Temperature, Line & Load Variations	±3%	±3%	±3%
Transients 1/2 Load to Full Load Step Change (5 Millisecond Time Constant)	±8%** (3%)/	±8% (3%)/	±2.5%**
Ripple*	$50mv_{pp}$ ($25mv_{pp}$)/	$50mv_{pp}$ ($25mv_{pp}$)/	$100mv_{pp}$
Spikes on Ripple*	$100mv_{p}$ ($50mv_{p}$)/	$100mv_{p}$ ($50mv_{p}$)/	$300mv_{p}$

*At constant rated current.
**Transient 10 amp step change.

/The lower values of ripple, spikes and transient changes may be realized, if needed, by external capacitors. Use maximum of one 10V WV FE Case (66,000 μf) capacitor.

4.2 OVERVOLTAGE PROTECTION

4.2.1 Overvoltage Warning and Shutdown

Voltage	Controller Warning	Maximum Shutdown Voltage
+5V Logic	Yes	+6.0V
-5V	Yes	-6.0V
B +21.5V	Yes	+25V

The warning is a lack of the confidence signal (+10 percent of nominal).

4.3 UNDERVOLTAGE PROTECTION

All voltages require undervoltage detection.

4.3.1 Undervoltage Warning and Shutdown

Voltage	Controller Warning	Minimum Shutdown Voltage
+5V Logic	Yes	+4.2V
-5V	Yes	-4.2V
B +21.5V	Yes	+17V

The warning is the lack of a confidence signal (-10 percent of nominal).

4.4 OVERCURRENT PROTECTION

All output voltage supplies shall have overcurrent protection.

Each supply shall be essentially constant voltages from 0 percent load to 100 percent load. At approximately 110 to 150 percent of rated load the supply shall limit on current and fail on undervoltage, or equivalent action.